

DESCRIPTION OF TABLES AND CHARTS.

Table I gives the data ordinarily needed for climatological studies for about 158 Weather Bureau stations making simultaneous observations at 8 a. m. and 8 p. m., daily, seventy-fifth meridian time, and for about 41 others making only one observation. The altitudes of the instruments above ground are also given.

Table II gives a record of precipitation, the intensity of which at some period of the storm's continuance equaled or exceeded the following rates:

Duration (minutes)	5	10	15	20	25	30	35	40	45	50	60
Rates per hour (inches)	3.00	1.80	1.40	1.20	1.08	1.00	0.94	0.90	0.87	0.84	0.80

It is impracticable to make this table sufficiently wide to accommodate on one line the record of accumulated falls that continue at an excessive rate for several hours. In this case the record is broken at the end of each 50 minutes, the accumulated amounts being recorded on successive lines until the excessive rate ends.

In cases where no storm of sufficient intensity to entitle it to a place in the full table has occurred, the greatest precipitation of any single storm has been given, also the greatest hourly fall during that storm.

The tipping-bucket mechanism is *dismounted* and removed when there is danger of snow or water freezing in the same. Table II records this condition by entering an asterisk (*).

Table III gives, for about 30 stations of the Canadian Meteorological Service, the means of pressure and temperature, total precipitation and depth of snowfall, and the respective departures from normal values except in the case of snowfall.

Chart I.—Hydrographs for several of the principal rivers of the United States.

Chart II.—Tracks of centers of high areas; and

Chart III.—Tracks of centers of low areas. The roman numerals show the chronological order of the centers. The figures within the circles show the days of the month; the letters *a* and *p* indicate, respectively, the observations at 8 a. m. and 8 p. m., seventy-fifth meridian time. Within each circle is also given (Chart II) the last three figures of the highest barometric reading and (Chart III) the lowest reading reported at or near the center at that time, and in both cases as reduced to sea level and standard gravity.

Chart IV.—Temperature departures. This chart presents the departures of the monthly mean temperatures from the monthly normals. The normals used in computing the departures were computed for a period of 33 years (1873 to 1905) and are published in Weather Bureau Bulletin "R," Washington, 1908. Stations whose records were too short to justify the preparation of normals in 1908 have been provided with normals as adequate records became available, and all have been reduced to the 33-year interval 1873–1905. The shaded portions of the chart indicate areas of positive departures and unshaded portions indicate areas of negative departures.

Generalized lines connect places having approximately equal departures of like sign. This chart of monthly temperature departures in the United States was first published in the MONTHLY WEATHER REVIEW for July, 1909.

Chart V.—Total precipitation. The scale of shades showing the depth is given on the chart. Where the monthly amounts are too small to justify shading, and over sections of the country where stations are too widely separated or the topography is too diversified to warrant reasonable accuracy in shading, the actual depths are given for a limited number of representative stations. Amounts less than 0.005 inch are indicated by the letter T, and no precipitation by 0.

Chart VI.—Percentage of clear sky between sunrise and sunset. The average cloudiness at each Weather Bureau station is determined by numerous personal observations between sunrise and sunset. The difference between the observed cloudiness and 100 is assumed to represent the percentage of clear sky, and the values thus obtained are the basis of this chart. The chart does not relate to the nighttime.

Chart VII.—Isobars and isotherms at sea level and prevailing wind directions. The pressures have been reduced to sea level and standard gravity by the method described by Prof. Frank H. Bigelow on pages 13–16 of the REVIEW for January, 1902. The pressures have also been reduced to the mean of the 24 hours by the application of a suitable correction to the mean of the 8 a. m. and 8 p. m. readings at stations taking two observations daily, and to the 8 a. m. or the 8 p. m. observation, respectively, at stations taking but a single observation. The diurnal corrections so applied will be found in the Annual Report of the Chief of the Weather Bureau, 1900–1901, volume 2, Table 27, pages 140–164.

The isotherms on the sea-level plane have been constructed by means of the data summarized in chapter 8 of volume 2 of the annual report just mentioned. The correction $t_0 - t$, or temperature on the sea-level plane minus the station temperature as given by Table 48 of that report, is added to the observed surface temperature to obtain the adopted sea-level temperature.

The prevailing wind directions are determined from hourly observations at the great majority of the stations; a few stations having no self-recording wind-direction apparatus determine the prevailing direction from the daily or twice-daily observations only.

Chart VIII.—Total snowfall. This is based on the reports from regular and cooperative observers and shows the depth in inches and tenths of the snowfall during the month. In general, the depth is shown by lines inclosing areas of equal snowfall, but in special cases figures are also given. Chart VIII is published only when the general snow cover is sufficiently extensive to justify its preparation.

TABLE I.—Climatological data for United States Weather Bureau stations, July, 1915.

Districts and stations.	Elevation of instruments.		Pressure.				Temperature of the air.						Precipitation.				Wind.				Average cloudiness.		Show on ground at end of month.											
	Barometer above sea level.	Thermometer above ground.	Station, reduced to mean of 24 hours.	In.	In.	"F.	"F.	"F.	"F.	Date.	Mean maximum.	Minimum.	"F.	"F.	"F.	"F.	Total.	Departure from normal.	Days with 0.01 or more.	Miles.	Total movement.	Prevailing direction.	Miles per hour.	Direction.	Date.									
	Ft.	Ft.	Ft.	In.	In.	°F.	°F.	°F.	°F.		Mean max + mean min + 2.	Greatest daily range.	Mean minimum.	Mean maximum.	Mean minimum.	Mean maximum.	Mean wet thermometer.	Mean temperature of the dew point.	Mean relative humidity.															
<i>New England.</i>						67.6	- 1.4	80	18	66	46	6	50	31	53	50	79	3.75 + 0.3	12	4,958	s.	51	ne.	9	7	10	11	6.4	6.0					
Eastport.	76	67	85	29.84	29.92	- 0.01	58.1	- 1.7	82	25	74	45	8	54	33	60	57	80	10.84 + 7.6	17	5,364	e.	38	nw.	9	8	10	13	6.3					
Greenville.	1,070	6	28.78	29.92	- .01	63.6	- 3.6	81	13	71	53	9	58	24	60	57	80	10.29 + 6.5	16	3,324	se.	21	nw.	9	8	14	11	5.9						
Portland, Me.	103	82	117	29.82	29.94	- .01	64.1	- 3.6	82	13	78	49	7	58	33	60	57	80	5.46 + 1.7	15	5,645	s.	31	s.	5	6	15	14	6.8					
Concord.	288	70	79	29.62	29.92	- .01	68.2	- 0.9	83	13	76	50	21	59	27	60	57	80	5.23 + 1.5	21	3,793	s.	21	s.	5	2	15	14	6.8					
Burlington.	404	11	48	29.45	29.90	- .01	67.6	- 0.6	87	31	76	45	7	51	33	60	58	82	5.85 + 5.5	15	5,986	s.	33	nw.	9	8	14	9	5.2					
Northfield.	876	12	60	29.00	29.93	- .01	64.6	- 2.0	86	31	76	45	26	60	18	63	52	90	9.671	36	s.	s.	9	5	16	10	5.6							
Boston.	125	115	188	29.79	29.92	- .01	70.1	- 1.2	90	13	77	55	25	63	27	64	61	79	9.85 + 5.5	15	5,426	s.	36	nw.	9	6	12	13	6.4					
Nantucket.	12	14	90	29.92	29.93	- .05	66.8	- 0.7	83	30	73	55	26	60	18	63	62	90	1.32 + 1.4	9	4,436	sw.	36	nw.	16	8	7	8	5.8					
Block Island.	26	11	46	29.89	29.92	- .05	68.3	+ 0.2	82	31	74	59	26	63	16	65	64	91	1.59 + 1.7	9	4,436	nw.	36	nw.	9	6	12	13	6.4					
Narragansett Pier.	9						67.8	- 2.1	85	19	75	50	7	61	26	64	61	77	6.35 + 2.8	14	7,510	s.	40	nw.	14	4	19	8	5.9					
Providence.	160	215	251	29.75	29.92	- .05	70.1	- 3.3	89	17	78	51	25	62	26	64	61	76	6.97 + 2.9	16	4,781	s.	37	ne.	8	6	13	12	6.2					
Hartford.	159	122	140	29.75	29.92	- .05	71.7	+ 0.1	89	17	81	55	23	62	29	65	61	80	3.90 + 0.9	14	5,426	s.	27	nw.	8	6	13	12	6.2					
New Haven.	108	117	155	29.81	29.92	- .05	71.4	- 0.5	91	17	80	55	25	63	25	66	61	80	5.426	27	nw.							5.4						
<i>Middle Atlantic States.</i>						73.8	- 0.8											76	4.20 + 0.1															
Albany.	97	102	115	29.81	29.91	- .05	71.4	- 0.6	91	31	80	53	7	62	29	64	61	74	5.05 + 1.2	14	4,567	s.	32	n.	8	13	13	5	4.6					
Binghamton.	871	10	69	29.01	29.92	- .05	68.9	- 1.0	87	31	79	50	23	59	30	63	61	73	4.60 + 0.1	15	9,184	s.	24	w.	3	2	16	13	6.5					
New York.	314	414	554	29.60	29.93	- .05	72.5	- 1.0	92	31	80	59	9	65	23	65	61	73	4.60 + 0.1	15	9,184	s.	77	nw.	17	6	10	15	6.9					
Harrisburg.	374	94	104	29.55	29.94	- .04	74.2	- 0.3	93	19	83	57	23	65	25	66	62	69	4.03 + 0.2	13	3,837	w.	33	n.	8	6	18	8	5.7					
Philadelphia.	117	123	190	29.82	29.94	- .04	76.0	+ 0.2	93	17	84	61	25	68	22	69	66	74	5.02 + 0.7	16	6,310	s.	38	n.	13	7	16	12	8					
Reedling.	325	81	98	29.60	29.94	- .04	74.0	- 0.5	93	19	83	57	25	65	27	66	62	70	4.56 + 0.3	24	4,175	s.	31	sw.	8	4	15	12	6.7					
Schroon.	805	111	119	29.10	29.95	- .03	70.4	- 1.4	89	30	80	51	10	61	29	64	61	74	2.60 + 1.2	15	4,064	sw.	23	sw.	8	13	13	5	4.6					
Atlantic City.	52	37	48	29.89	29.94	- .04	72.6	+ 0.1	93	31	79	58	9	66	26	68	66	83	2.37 + 0.3	14	4,977	sw.	32	nw.	17	9	18	7	5.2					
Cape May.	18	13	49	29.95	29.97	- .01	72.8	- 0.6	92	31	79	60	25	66	21	68	66	83	4.11 + 0.3	14	4,885	s.	32	nw.	17	9	18	7	4.9					
Sandy Hook.	22	10	57	29.91	29.93	- .04	72.9	- 0.2	92	30	83	57	25	65	27	68	66	83	4.11 + 0.3	14	4,885	s.	54	n.	17	7	17	14	6.2					
Trenton.	190	158	183	29.73	29.92	- .04	73.7	- 0.2	92	30	83	57	25	65	27	68	66	83	2.20 + 2.4	16	6,119	w.	16	sw.	8	11	12	8	5.4					
Baltimore.	123	100	113	29.81	29.94	- .06	76.9	- 0.4	95	31	85	61	22	69	25	69	66	83	2.22 + 2.6	11	4,739	s.	26	w.	29	6	22	3	5.1					
Washington.	112	62	85	29.89	29.94	- .06	76.1	- 0.7	95	31	86	60	25	66	28	68	65	83	3.05 + 1.0	12	4,311	w.	36	nw.	29	11	12	8	4.8					
Lynchburg.	681	153	188	29.23	29.95	- .06	76.2	- 1.1	91	31	87	54	6	65	31	68	65	73	5.72 + 0.1	11	8,505	sw.	65	ne.	29	11	12	4	4.8					
Norfolk.	91	170	205	29.87	29.98	- .04	77.4	- 1.0	96	16	85	63	10	70	24	70	67	75	5.72 + 0.1	11	8,505	sw.	35	nw.	17	9	18	4	4.8					
Richmond.	144	11	52	29.82	29.96	- .05	78.0	- 1.2	92	16	88	60	6	68	28	72	42	40	7.42	2	5,174	w.	23	w.	8	18	11	2	3.2					
Wytheville.	2,293	40	47	27.67	29.97	- .04	70.2	- 2.4	91	31	81	49	6	59	31	64	62	80	2.88 + 1.6	15	2,923	w.	23	w.	8	18	11	2	4.8					
<i>South Atlantic States.</i>						79.8	+ 0.7										77	4.98 + 1.1																
Asheville.	2,255	70	84	27.72	29.99	- .03	72.0	+ 0.3	92	31	83	52	6	62	27	65	63	79	2.78 + 2.1	14	3,848	nw.	25	w.	19	10	16	5	4.7					
Charlotte.	773	153	161	29.16	29.97	- .05	78.4	+ 0.7	100	31	80	50	23	59	25	66	66	70	3.08 + 2.4	9	6,504	s.	62	nw.	12	8	16	7	5.3					
Hatteras.	11	12	50	29.96	29.97	- .04	77.8	- 0.8	89	14	83	68	23	73	16	74	73	87	4.75 + 1.4	14	9,751	sw.	40	nw.	20	10	11	10	6.0					
Manteo.	12	4	46				77.8	- 0.8	98	16	86	55	10	70	29	70	66	71	9.58 + 3.5	8	5,374	s.	33	nw.	15	8	8	4	4.5					
Raleigh.	376	103	110	29.58	29.96	- .06	79.6	+ 1.1	98	15	89	61	26	70	29	70	66	71	2.83 + 3.3	12	4,374	sw.	35	w.	19	11	15	5	4.9					
Wilmington.	78	81	91	29.90	29.98	- .03	79.5	+ 0.8	95	13	88	65	10	72	25	74	72	82	8.12 + 1.2	14	5,473	sw.	35	w.	19	11	15	6	4.5					
Charleston.	48	11	92	29.94	29.99	- .04	82.2	+ 0.9	97	18	89	70	27	75	21	76	74	80	2.98 + 4.3	10	6,933	s.	28	w.	20	17	12	2	3.0					
Columbia, S. C.	351	41	57	29.61	29.98	- .04	81.3	+ 0.2	100	18	92	64	25	71	27	76	78	2.31 + 3.8	8	4,730	sw.	25	w.	20	17	12	2	3.0						
Augusta.	180	89	97	29.79	29.98	- .04	82.0	+ 1.5	98	19	92	65	26	72	27	73	69	69	1.03 + 3.7	9	4,155	s.	28	w.	19	15	12	4	4.3					
Savannah.	65	150	194	29.92	29.99	- .04	82.0	+ 1.5	98	19																								

TABLE II.—Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during July, 1915, at all stations furnished with self-registering gages.

Stations.	Date.	Total duration.		Total amount of precipitation.	Excessive rate.		Amount before excessive rate began.	Depths of precipitation (in inches) during periods of time indicated.													
		From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Abilene, Tex.	31			0.58																0.20	
Albany, N. Y.	7-8	10:50 p.m.	1:30 a.m.	2.95																.61	
Alpena, Mich.	11-12	D. N. a.m.	D. N. a.m.	1.42	12:43 a.m.	1:05 a.m.	0.11	0.27	0.68	1.11	1.28	1.29									
Amarillo, Tex.	15-16	11:15 p.m.	2:00 a.m.	0.79	1:52 a.m.	2:10 a.m.	.03	.15	.31	.47	.55										
Anniston, Ala.	5	5:00 p.m.	5:50 p.m.	1.63	(11:37 p.m.)	11:58 p.m.	.03	.09	.16	.30	.57	.58									
Asheville, N. C.	4	10:40 a.m.	12:00 m.	1.72	(12:55 a.m.)	1:19 a.m.	.99	.06	.17	.23	.40	.64									.43
Atlanta, Ga.	20			0.67	5:07 p.m.	5:38 p.m.	.03	.09	.16	.25	.41	.51	0.56	0.61							
Atlantic City, N. J.	17			0.81	11:31 a.m.	11:34 a.m.	.04	.07	.23	.46	.57	.59	.63	.72							.38
Augusta, Ga.	19-20	11:15 p.m.	D. N. a.m.	1.04	11:34 p.m.	12:03 a.m.	.20	.18	.30	.46	.52	.58	.65	.78							
Baker, Ore.	8-9			0.40																	.13
Baltimore, Md.	11	8:55 p.m.	9:25 p.m.	0.72	9:05 p.m.	9:21 p.m.	.05	.11	.43	.64	.67										
Bentonville, Ark.	18-19	12:12 p.m.	9:10 a.m.	1.05	10:27 p.m.	10:52 p.m.	.01	.10	.18	.37	.46	.53									
Binghamton, N. Y.	8	8:37 a.m.	3:30 p.m.	3.12	8:43 a.m.	9:43 a.m.	.03	.05	.09	.14	.22	.32	.50	.60	0.71	0.79	0.82	0.96			
Birmingham, Ala.	1	1:45 a.m.	D. N. a.m.	0.90	1:49 a.m.	2:15 a.m.	.01	.12	.37	.56	.66	.82	.86								
Bismarck, N. Dak.	13-14	5:44 p.m.	D. N. a.m.	1.27	6:17 p.m.	6:47 p.m.	.01	.23	.61	.83	1.02	1.11	1.17								.21
Block Island, R. I.	19	10:05 p.m.	D. N. a.m.	0.22	11:21 p.m.	11:52 p.m.	.39	.07	.23	.35	.49	.66	.73	.78							.23
Boise, Idaho	9			0.28																	
Boston, Mass.	1	2:00 a.m.	7:30 a.m.	3.37																	
Buffalo, N. Y.	28			0.80																	.62
Burlington, Vt.	17	D. N. a.m.	9:00 a.m.	0.69	7:43 a.m.	8:04 a.m.	.16	.05	.13	.25	.41	.45									
Cairo, Ill.	7	9:50 p.m.	D. N. p.m.	2.00	10:00 p.m.	10:48 p.m.	.01	.16	.33	.63	1.26	1.56	1.74	1.76	1.78	1.92	1.98				
Canion, N. Y.	17	12:46 p.m.	1:40 p.m.	1.01	12:46 p.m.	1:07 p.m.	.00	.28	.73	.90	.97	.99									
Charles City, Iowa	18	5:26 p.m.	8:30 p.m.	1.10	5:28 p.m.	6:01 p.m.	.00	.08	.27	.50	.53	.60	.65	.73							
Charleston, S. C.	5	5:45 p.m.	6:45 p.m.	0.63	5:48 p.m.	6:10 p.m.	.01	.15	.31	.39	.51	.57									
Charlotte, N. C.	8	3:37 p.m.	4:33 p.m.	0.61	3:47 p.m.	4:03 p.m.	.03	.23	.29	.52	.55										
Chattanooga, Tenn.	13	12:18 p.m.	1:42 p.m.	0.70	12:30 p.m.	1:03 p.m.	.05	.10	.29	.35	.46	.62									
Cheyenne, Wyo.	13	12:50 p.m.	1:41 p.m.	0.56	1:48 p.m.	1:41 p.m.	.01	.11	.19	.31	.51	.57	.62								
Chicago, Ill.	7	2:45 p.m.	3:45 p.m.	0.81	3:41 p.m.	3:54 p.m.	.00	.17	.32	.48											
Cincinnati, Ohio	7	8:55 p.m.	D. N. p.m.	1.05	9:21 p.m.	9:40 p.m.	.03	.06	.13	.56	.65										
Cleveland, Ohio	14-15	11:52 a.m.	12:59 p.m.	0.93	11:53 a.m.	12:13 p.m.	.01	.13	.46	.61	.69										
Columbia, Mo.	25	8:02 p.m.	9:42 a.m.	0.96	2:59 p.m.	3:25 a.m.	.02	.07	.14	.32	.47	.67	.72								
Columbus, S. C.	19-20	7:42 a.m.	10:03 a.m.	0.92	8:31 a.m.	9:06 a.m.	.05	.23	.33	.39	.43	.51	.59	.73							.58
Columbus, Ohio	4	6:35 p.m.	9:35 p.m.	0.86	6:55 p.m.	7:34 p.m.	.03	.19	.28	.39	.47	.53	.62	.69							
Concord, N. H.	15	4:50 p.m.	6:15 p.m.	0.67	4:53 p.m.	5:07 p.m.	.02	.28	.49	.57											
Concordia, Kans.	20	3:25 p.m.	7:15 p.m.	1.03	3:51 p.m.	4:05 p.m.	.05	.21	.66	.82											
Corpus Christi, Tex.	8			3.05																	.02
Davenport, Iowa	7	3:55 p.m.	5:24 p.m.	2.74	4:19 p.m.	5:05 p.m.	.05	.29	.54	.81	1.07	1.35	1.64	2.11	2.42	2.63	2.69				
Dayton, Ohio	7	6:29 p.m.	8:00 p.m.	1.98	7:34 p.m.	7:56 p.m.	.01	.37	.66	.92	1.30	1.37									
Del Rio, Tex.	21	11:55 a.m.	3:50 p.m.	2.46	12:42 p.m.	9:50 p.m.	.29	.13	.21	.41	.48	.55	.60	.81	1.08	1.33	1.48	1.64			
Denver, Colo.	2-3	9:35 p.m.	D. N. a.m.	1.02	7:20 p.m.	5:33 p.m.	.44	.19	.26	.33	.48	.55	.61	.64	.74	1.19	1.47	1.52			
Des Moines, Iowa	7	12:40 a.m.	4:30 a.m.	0.35	9:38 p.m.	9:46 p.m.	.01	.23	.32	.48											
Detroit, Mich.	10	6:04 a.m.	9:35 a.m.	0.97	7:16 a.m.	7:33 a.m.	.09	.16	.34	.63	.70										
Devils Lake, N. Dak.	16	12:18 p.m.	12:35 p.m.	0.67	1:58 a.m.	2:18 a.m.	.01	.17	.35	.44	.50										
Dodge City, Kans.	30	D. N. a.m.	1:23 a.m.	1.73	D. N. a.m.	1:23 a.m.	.01	.17	.25	.35	.57	.83	.99	1.24	1.39	1.58	1.72				
Duluth, Minn.	7	10:55 p.m.	11:30 p.m.	0.69	11:36 p.m.	12:31 p.m.	.02	.07	.10	.18	.33	.48	.50								
Eastport, Me.	8-9	7:55 p.m.	D. N. a.m.	1.72	5:42 a.m.	6:12 a.m.	.35	.06	.17	.27	.41	.50	.56								.19
Elkins, W. Va.	11			0.36																	.51
El Paso, Tex.	23			0.59																	.34
Erie, Pa.	12	5:00 a.m.	6:10 a.m.	0.86	5:16 a.m.	5:51 a.m.	.02	.17	.34	.52	.64	.87	.76	.81							.50
Escanaba, Mich.	4			0.76																	.22
Eureka, Cal.	6			0.17																	.03
Evansville, Ind.	12	4:30 p.m.	6:00 p.m.	0.75	5:26 p.m.	5:48 p.m.	.21	.15	.30	.42	.53	.64									
Fort Smith, Ark.	17	D. N. a.m.	6:30 a.m.	0.63	4:34 a.m.	4:51 a.m.	.02	.10	.31	.51	.55										
Fort Wayne, Ind.	14-15	7:05 p.m.	7:10 a.m.	0.39																	.30
Fort Worth, Tex.	4			1.00																	.12
Fresno, Calif.	21	1:55 p.m.	4:10 p.m.	1.30	2:21 p.m.	2:51 p.m.	.03	.23	.65	.91	1.06	1.13	1.19								
Galveston, Tex.	15			0.46																	.38
Grand Haven, Mich.	15			0.13																	.13
Grand Junction, Colo.	29			1.41	12:42 p.m.	1:22 p.m.	.01	.11	.39	.67	.91	1.10	1.15	1.28	1.38						.35
Grand Rapids, Mich.	1	12:38 p.m.	2:00 p.m.	0.76																	
Green Bay, Wis.	24	1:47 p.m.	2:32 p.m.	1.30	2:06 p.m.	2:26 p.m.	.02	.22	.53	1.07	1.28										
Hannibal, Mo.	10	10:42 a.m.	1:18 p.m.	0.71	10:58 a.m.	11:16 a.m.	.01	.14	.31	.47	.55										
Harrisburg, Pa.	30	4:09 p.m.	6:10 p.m.	1.53	4:11 p.m.	4:35 p.m.	.01	.31	.76	1.04	1.16										
Hartford, Conn.	14	6:27 p.m.	6:55 p.m.	0.51	6:29 p.m.	6:42 p.m.	.01	.17	.43	.50	.60										
Hatteras, N. C.	31	6:15 p.m.	7:40 p.m.	1.00	6:15 p.m.	7:26 p.m.	.00	.05	.11	.20	.23	.30	.38	.50	.57	.65	.70	.86	1.00		
Havre, Mont.	9	11:30 a.m.	12:40 p.m.	0.68	11:37 a.m.	11:45 a.m.	.01	.24	.35												
Helena, Mont.	20-21			0.50																	
Houghton, Mich.	4-5			0.63																	
Houston, Tex.	3	9:10 a.m.	12:05 p.m.	0.68	9:26 a.m.	9:52 a.m.	.03	.20	.31	.44	.47	.64	.71								
Huron, S. Dak.	20	6:05 p.m.	D. N. p.m.	1.24	6:17 p.m.	7:07 p.m.	.06	.13	.26	.32	.50	.58	.57	.63	.76	.91	1.03				
Independence, Cal.	21			0.04																	.04

* Self-register not working.

TABLE II.—Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during July, 1915, at all stations furnished with self-registering gages—Continued.

Stations.	Date.	Total duration.		Total amount of precipitation.	Excessive rate.		Amount before excessive rate began.	Depths of precipitation (in inches) during periods of time indicated.													
		From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Indianapolis, Ind.	7	2:46 p. m.	9:20 p. m.	4.13	{ 3:13 p. m. 6:13 p. m.	4:13 p. m. 6:42 p. m. 4:06 p. m. 4:20 p. m. 7:05 a. m.	0.01 2.05 .01 .23 .47 .70	0.08 .19 .59 .95 .23 .53	0.14 .59 .95 .23 .77 .88	0.22 .23 .41 .50 .62 .68	0.42 .23 .41 .50 .56 .61	0.65 .70 .41 .50 .56 .61	0.79 .77 .44 .50 .56 .61	0.87 .88 .71 .71 .71	0.97 .93 .85	1.15	1.45	1.71			
Iola, Kans.	12	7:35 a. m.	9:28 a. m.	1.18	8:01 a. m.	8:36 a. m.	.01	.01	.23	.23	.53	.70	.77	.88	.93	.98					
Jacksonville, Fla.	6	2:50 p. m.	3:35 p. m.	0.62	3:10 p. m.	3:24 p. m.	.03	.03	.12	.34	.58										
Kalispel, Mont.	5	5:40 p. m.	7:50 p. m.	1.53	{ 5:47 p. m. 7:03 p. m.	6:04 p. m. 7:32 p. m.	.01 .02	.01 .07	.23	.32	.46	.60	.60	.70							
Kansas City, Mo.	12	5:18 a. m.	7:45 a. m.	1.02	5:20 a. m.	5:56 a. m.	.01	.06	.16	.48	.52	.58	.62	.74	.81						
Keokuk, Iowa	7	3:50 a. m.	5:30 a. m.	0.94	4:01 a. m.	4:33 a. m.	.03	.08	.31	.32	.36	.58	.60	.74							
Key West, Fla.	24	1:35 p. m.	3:20 p. m.	1.22	1:56 p. m.	2:19 p. m.	.01	.34	.76	.98	1.13	1.20									
Knoxville, Tenn.	10	11:41 a. m.	2:15 p. m.	1.45	11:43 a. m.	12:11 p. m.	.01	.20	.50	.84	1.08	1.34	1.40								
Lander, Wyo.	14	2:58 p. m.	7:15 p. m.	1.34	3:01 p. m.	3:26 p. m.	.01	.27	.62	.98	1.16	1.25									
Lewiston, Idaho	16	4:25 a. m.	5:20 a. m.	0.59	4:38 a. m.	5:08 a. m.	.04	.19	.26	.29	.34	.45	.54								
Lexington, Ky.	1	3:00 p. m.	8:00 p. m.	1.22	5:46 p. m.	6:01 p. m.	.36	.12	.52	.75											
Lincoln, Nebr.	15-16	8:42 p. m.	1:00 a. m.	1.43	8:55 p. m.	10:01 p. m.	.02	.06	.08	.14	.21	.33	.40	.52	.60	.71	.78	1.01	1.27		
Little Rock, Ark.	31	3:40 p. m.	5:35 p. m.	0.91	4:02 p. m.	4:38 p. m.	.03	.07	.09	.28	.37	.49	.64	.75							
Los Angeles, Cal.	8	3:10 p. m.	3:50 p. m.	0.51	3:18 p. m.	3:42 p. m.	.02	.08	.24	.32	.38	.48									
Louisville, Ky.	30	3:46 p. m.	4:03 p. m.	0.43	3:49 p. m.	3:58 p. m.	.01	.27	.41	.28	.29	.36									
Ludington, Mich.	27	8:13 p. m.	11:15 p. m.	1.64	9:31 p. m.	11:00 p. m.	.16	.20	.28	.28	.29	.36									
Lynchburg, Va.	4	6:20 p. m.	8:40 p. m.	1.39	6:41 p. m.	6:59 p. m.	.02	.45	.76	1.08	1.11										
Macon, Ga.	1	2:20 p. m.	4:05 p. m.	0.51	2:22 p. m.	2:36 p. m.	.01	.19	.40	.46	.53	.63	.63	.64	.69	.81	1.32	1.47			
Madison, Wis.	31	8:25 p. m.	9:30 p. m.	1.59	8:30 p. m.	8:58 p. m.	.02	.15	.38	.67	1.05	1.33	1.38								
Marquette, Mich.	11			0.67																	
Memphis, Tenn.	17			0.39																	
Meridian, Miss.	5			0.42																	
Miami, Fla.	25	10:45 a. m.	1:50 p. m.	1.10	11:50 a. m.	12:15 p. m.	.14	.09	.40	.71	.81	.91									
Mobile, Ala.	27	9:02 p. m.	9:40 p. m.	0.61	9:08 p. m.	9:27 p. m.	.01	.06	.27	.43	.59										
Minneapolis, Minn.	31	3:26 p. m.	D. N. p. m.	0.99	4:12 p. m.	4:38 p. m.	.12	.06	.23	.37	.43	.50	.53								
Milwaukee, Wis.	7		D. N.	2.42	2:28 a. m.	3:38 a. m.	.03	.08	.23	.44	.65	.81	.95	1.01	1.05	1.09	1.20	1.63	2.38		
Montgomery, Ala.	5	2:40 p. m.	6:10 p. m.	1.05	2:25 p. m.	1:13 p. m.	.01	.11	.23	.36	.43	.45	.49	.52	.54	.71	.98	1.08			
Moorhead, Minn.	17	12:15 p. m.	2:10 p. m.	1.14	6:32 a. m.	7:00 a. m.	.07	.06	.15	.22	.48	.56	.63								
Mount Tamalpais, Cal.	15	3:55 p. m.	5:00 p. m.	0.52	4:00 p. m.	4:17 p. m.	.02	.13	.26	.40	.44										
Nantucket, Mass.	21			0.50																	
Nashville, Tenn.	2-3			0.45																	
New Haven, Conn.	5			0.60																	
New Orleans, La.	3	6:20 a. m.	11:00 a. m.	2.51	6:25 a. m.	7:14 a. m.	.01	.10	.52	.93	1.22	1.48	1.58	1.68	2.00	2.20	2.29				
New York, N. Y.	19	5:29 p. m.	7:25 p. m.	1.61	5:29 p. m.	6:17 p. m.	.00	.10	.33	.80	1.07	1.17	1.29	1.37	1.46	1.52	1.56				
Norfolk, Va.	20	11:55 a. m.	1:30 p. m.	1.06	11:55 a. m.	12:25 p. m.	.00	.21	.48	.57	.61	.64	.87								
Northfield, Vt.	29	7:25 p. m.	9:00 p. m.	1.14	7:25 p. m.	7:51 p. m.	.11	.28	.55	.75	.92	.98	1.03								
North Head, Wash.	7-8	6:50 p. m.	8:30 p. m.	1.16	7:21 p. m.																
North Platte, Nebr.	9-10	11:20 p. m.	D. N. a. m.	1.02	11:34 p. m.	12:23 a. m.	.01	.12	.21	.22	.27	.48	.61	.71	.82	.88	.92				
Oklahoma, Okla.	31-11	11:38 p. m.	D. N. a. m.	1.53	11:43 p. m.																
Omaha, Nebr.	4			0.48																	
Oswego, N. Y.	18	11:15 a. m.	12:30 p. m.	0.79	11:31 a. m.	11:44 a. m.	.01	.26	.68	.76											
Palestine, Tex.	3	4:47 p. m.	9:40 p. m.	1.45	5:17 p. m.	5:32 p. m.	T.	.74	1.21	1.28											
Parkersburg, W. Va.	31	5:30 p. m.	7:40 p. m.	2.71	5:32 p. m.	7:22 p. m.	.01	.13	.17	.19	.21	.31	.47	.61	.67	.69	.73	1.25	1.96	2.55	2.70
Pensacola, Fla.	10	2:00 p. m.	6:10 p. m.	0.43	5:10 p. m.	6:02 p. m.	.01	.25	.40	.41	.45										
Peoria, Ill.	7	3:25 p. m.	6:10 p. m.	0.76	2:17 p. m.	2:39 p. m.	.07	.11	.21	.42	.52	.57									
Philadelphia, Pa.	30	8:27 p. m.	9:20 p. m.	0.80	8:32 p. m.	8:41 p. m.	.03	.42	.54												
Phoenix, Ariz.	13	9:25 p. m.	10:40 p. m.	0.70	9:55 p. m.	10:13 p. m.	.09	.26	.41	.48	.56										
Pierre, S. Dak.	27	8:25 p. m.	1:00 a. m.	1.20	9:28 p. m.	9:58 p. m.	.02	.11	.32	.35	.49	.76	.88								
Pittsburgh, Pa.	13	1:03 a. m.	3:55 a. m.	0.78	1:04 a. m.	1:32 a. m.	.06	.09	.24	.36	.40										
Pocatello, Idaho.	2			1.04																	
Point Reyes Light, Cal.	9			0.32																	
Port Huron, Mich.	16	1:39 p. m.	2:40 p. m.	0.71	2:00 p. m.	2:20 p. m.	.01	.08	.09	.39	.62										
Portland, Me.	3	1:12 a. m.	9:45 a. m.	3.22	2:29 a. m.	3:24 a. m.	.05	.05	.10	.15	.29	.47	.63	.74	.77	.78	.87	1.06			
Portland, Oreg.	8	6:34 a. m.	11:25 p. m.	3.66	7:50 p. m.	8:40 p. m.	2.08	.09	.17	.24	.39	.34	.37	.45	.54	.63	.70				
Providence, R. I.	1	12:10 a. m.	4:45 a. m.	3.36	1:35 a. m.	4:17 a. m.	0.06	1.49	1.57	1.74	1.83	1.89	1.96	2.09	2.21	2.25	2.30				
Pueblo, Colo.	15	5:33 p. m.	6:32 p. m.	0.86	5:52 p. m.	6:21 p. m.	.07	.15	.34	.51	.63	.72	.78								

* Aug. 1.

* Self-register not working.

† No precipitation occurred during month.

TABLE II.—Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during July, 1915, at all stations furnished with self-registering gages—Continued.

- Self-register not working.

† Record partly estimated.

† No precipitation occurred during month.

TABLE III.—*Data furnished by the Canadian Meteorological Service, July, 1915.*

Stations.	Pressure.			Temperature.						Precipitation.		
	Station reduced to mean of 24 hours.	Sea-level reduced to mean of 24 hours.	Departure from normal.	Mean max. + mean min. + 2.	Departure from normal.	Mean maximum.	Mean minimum.	Highest.	Lowest.	Total.	Departure from normal.	Total snowfall.
St. Johns, N. F.	Inches.	Inches.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	Inches.	Inches.	Inches.
Sydney, C. B. I.	29.85	29.99	+0.02	58.1	-3.2	63.8	48.2	79	39	3.09	+0.80	.....
Halifax, N. S.	29.91	29.95	+ .02	61.4	-0.9	71.4	51.5	79	44	3.44	-0.21	.....
Yarmouth, N. S.	29.84	29.94	- .02	63.5	+0.1	72.8	54.2	84	48	3.23	-0.82	.....
Charlottetown, P. E. I.	29.86	29.93	- .02	60.2	+0.7	67.8	52.6	77	44	1.28	-2.34	.....
Chatham, N. B.	29.88	29.92	+ .03	64.2	+0.1	72.5	55.9	81	48	2.16	-1.33	.....
Father Point, Que.	29.88	29.90	+ .02	65.0	0.0	75.9	54.0	86	46	5.81	+1.62	.....
Quebec, Que.	29.84	29.86	+ .01	58.2	+0.6	66.7	49.7	85	44	2.52	-0.52	.....
Montreal, Que.	29.59	29.91	.00	66.0	+0.5	77.0	55.1	88	50	1.43	-2.83	.....
Stonecliffe, Ont.	29.32	29.92	- .02	64.8	-0.8	78.9	50.8	90	55	1.01	-3.28	.....
Ottawa, Ont.	29.64	29.96	+ .02	67.6	-1.9	77.6	57.6	88	50	0.76	-2.36	.....
Kingston, Ont.	29.62	29.93	- .05	67.3	-0.9	75.4	59.2	88	52	3.61	+0.72	.....
Toronto, Ont.	29.52	29.88	- .09	68.4	+0.4	77.5	59.3	86	51	4.50	+1.58	.....
White River, Ont.	28.62	29.92	- .02	56.0	-3.5	72.0	39.9	84	30	2.79	-0.01	.....
Port Stanley, Ont.	29.31	29.94	- .04	68.8	-1.0	75.0	55.6	83	46	4.03	+0.99	.....
Southampton, Ont.	29.25	29.92	- .04	63.9	-0.8	71.9	55.9	83	46	2.31	+1.33	.....
Parry Sound, Ont.	29.24	29.92	- .04	65.6	-0.4	76.8	54.5	86	48	2.22	-0.40	.....
Port Arthur, Ont.	29.25	29.96	+ .02	60.5	-1.5	70.0	51.0	84	41	2.86	-0.62	.....
Winnipeg, Man.	29.12	29.94	+ .01	62.8	-3.2	74.1	51.5	86	38	1.83	-1.25	.....
Minnedosa, Man.	28.17	29.96	+ .03	59.6	-2.6	70.7	48.4	82	38	2.68	+0.06	.....
Qu'Appelle, Sask.	27.71	29.94	+ .02	58.3	-5.2	69.5	47.1	84	34	2.81	+0.33	.....
Medicine Hat, Alberta.	27.67	29.91	+ .01	61.2	-6.6	77.8	52.5	90	43	3.58	+1.49	.....
Swift Current, Sask.	27.39	29.93	+ .02	60.0	-6.5	71.3	45.7	86	36	2.37	-0.07	.....
Calgary, Alberta.	26.39	29.86	- .04	55.8	-1.8	70.6	47.1	81	33	3.98	+1.30	.....
Banff, Alberta.	25.44	29.97	+ .07	54.6	-2.0	66.1	43.1	79	35	3.98	+0.72	.....
Edmonton, Alberta.	27.69	29.96	+ .06	58.5	-2.1	69.5	47.5	78	37	4.24	+1.21	.....
Prince Albert, Sask.	28.38	29.92	+ .01	58.4	-3.5	67.5	49.3	78	40	3.17	+1.12	.....
Battleford, Sask.	28.25	29.97	+ .07	62.2	-2.5	74.2	50.3	85	40	3.18	+0.84	.....
Kamloops, B. C.	28.71	29.97	+ .03	68.8	+0.1	81.2	55.9	94	46	1.15	-0.46	.....
Victoria, B. C.	29.75	30.00	- .05	59.9	-0.1	67.2	52.6	87	50	0.84	+0.44	.....
Barkerville, B. C.	25.65	29.90	- .01	54.0	-1.1	65.5	42.5	74	32	4.90	+1.88
Hamilton, Bermuda	30.00	30.16	+ .02	77.8	-0.9	82.8	72.7	85	69	4.42	-0.02

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